Section of the History of Medicine

President—CUTHBERT E. DUKES, O.B.E., M.D.

Meeting
July 11, 1960

JOINT MEETING WITH THE FOURTH INTERNATIONAL GOITRE CONFERENCE

The History of Endemic Goitre and Cretinism in the Thirteenth to Fifteenth Centuries[1] [*Abridged*]

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THE standard histories of medicine tell us very little about endemic goitre and cretinism in the Middle Ages and I do not propose to repeat what can be read there. Instead, I shall attempt a hitherto unexplored approach to the mediæval history of goitre and cretinism.

There are four ways to investigate endemic goitre and to document its incidence in earlier centuries: (1) Medical literature; (2) study of proper names (family and place names connected with "goitre"); (3) non-medical literature (Roman classics, encyclopædias, belles-lettres, minnesingers' songs, epic poems, novels, short stories, &c., from the Middle Ages); (4) pictorial representations of goitre (manuscript illuminations, drawings, wood-cuts, paintings, sculptures).

With regard to point (1). If one traces back medical literature over the centuries, one has to admit that the trail is lost in the Middle Ages. It is not until about the year 1300 that we first encounter two rather laconic references by physicians to goitre as an endemic disease, i.e. in the works of Arnaldus de Villanova (goitres in Lucca) and Lanfrancus (goitres in Lombardy). Some hundred years later (1418), a high incidence of goitre was reported by Valescus de Taranta in the Pyrenees (Foix) and, finally, by Montagnana ("among the Germans", probably in the South Tyrol). Another century then elapsed before Paracelsus described the occurrence of goitre in Pinzgau in the neighbourhood of Salzburg (1527). Not until the eighteenth and nineteenth centuries does the documentation in medical literature dealing with endemic goitre become somewhat more plentiful.

The second possibility (2), the *study of proper names connected with goitre*, an avenue hitherto unexplored, enables us to go further back in time. This line of research is concerned with the names of families and localities associated with the word "Kropf" in German, "goitre" in English and French, "gozzo" in Italian, and "bocio" in Spanish-speaking regions. These investigations have not yet been completed, but I have already managed to trace back certain place names connected with the word "Kropf" to the twelfth century and family names to the eleventh century.

As to point (3), the only *non-medical literature* hitherto drawn upon in medical history has been the writings of the Roman authors Vitruvius, Pliny the Elder, Juvenal and Ulpian, who make only brief and vague references to goitre as an endemic disease in Alpine districts. But the non-medical literature of the Middle Ages has so far never been exploited as documentary evidence of endemic goitre, although it affords a surprising wealth of information in an epoch when medical literature still had nothing to offer. Space does not permit the discussion of details here, but we shall revert later to the encyclopædias of the thirteenth centry, in connexion with our fourth and last avenue of approach.

(4). A study of the incidence and role of *goitre in pictorial art*, including illuminated manuscripts, is yet another approach which has so far been scarcely explored. It provides an interesting insight into the role of goitre in the history of art and civilization. It is upon this approach to the problem that I propose to concentrate.

Non-medical Manuscripts

The oldest picture of goitre or cretinism that I have yet discovered is to be found in Codex 507 of the Austrian National Library in Vienna, i.e. in the so-called "Reuner Musterbuch". This codex, dating from 1215, emanates from the Cistercian Abbey in Reun near Graz in Styria, a region in which goitre is still highly endemic to-day. It depicts a remarkable figure, with three large goitres and a stupid facial expression,

[1]Unfortunately it is not possible to reproduce here the full text of the lecture and the many illustrations which accompanied it. The material omitted here will be included later in a publication on the history of endemic goitre and cretinism.

brandishing a fool's staff in one hand and reaching up with the other hand towards a toad (Fig. 1). Most of the drawings in the "Musterbuch" (or "Book of Samples") were made as sample designs for the "Physiologus", a moralizing bestiary dating back possibly as far as the third century A.D. The drawings of various animals contained in folio 9^{v} are still completely imbued with the traditional, unrealistic style of the twelfth century. It is hence all the more striking that the cretin should have been depicted so realistically. This is, in fact, an example of the sporadic emergence of a progressive, more naturalistic form of portrayal which art historians have observed in the thirteenth century.

FIG. 1.—Cretin with three goitres from the "Musterbuch" from Reun. 1215. Austrian National Library, Vienna. Codex 507.

The Cistercian Abbey of Reun is situated in Styria, a region in which goitre had undoubtedly been endemic for many centuries. The first reference to goitre in Styria dates from the sixteenth century (Sebastian Münster, 1530), but as early as 1240—in other words, about the time the Reun drawings were made — Bartholomæus Anglicus mentions that goitre was very common in the neighbouring land of Carinthia. The question as to why the artist placed a staff or cudgel in the cretin's hand can only be answered as follows. The cudgel represents the old mimical chastizing rod which was the classical attribute of the fool in the Middle Ages. The iconography of the fool from the thirteenth to fifteenth centuries is well illustrated in illuminated psalters. The 52nd psalm opens with the words: "Dixit insipiens in corde suo non est Deus". The fool is accordingly often depicted in the initial letter D and always with a cudgel. But why is the cretin grasping at a toad? Frogs and lizards already played a major role in popular medicine in classical times (cf. Pliny), and even more so during the Middle Ages when one popular remedy for goitre consisted in binding live or dismembered frogs to the goitre. In the first half of the fourteenth century John de Gaddesden, a London physician, claimed to have won a prize from the London Barber Surgeons' Guild for a prescription of which tree-frogs were the main ingredient. In 1514, Giovanni Vigo, an eminent Roman physician in the service of Pope Julius II, concocted a so-called "Emplastrum de ranis" which still figured in the London Pharmacopœia of 1618!

And now, a final word as to the importance of the Reun cretin in the history of medicine. It is the earliest pictorial document bearing witness to the occurrence of goitre and cretinism as an endemic disease in the Middle Ages, and it anticipates by some 300 years the discovery that goitre and cretinism go hand in hand. Paracelsus is repeatedly acclaimed as the discoverer of the relationship between goitre and cretinism; but it may well be that the artist of Reun was already aware of the connexion 300 years earlier. Incidentally, after Paracelsus almost another three centuries were to elapse before this notion became established as a scientific fact.

Two very important sources of literary documentation on endemic goitre and cretinism in the thirteenth century are the encyclopædias of Jacques de Vitry and Thomas of Cantimpré, which record fables of human monsters extending back to Greek authors, to Greek and Indian mythology, to the Physiologus, and to the bestiaries of the Middle Ages.

In the thirteenth century an event occurred for which the historian of goitre has every reason to be grateful: one of the encyclopædists decided not only to reproduce the traditional series of fantastic monsters, which by that time was already some 1,500 years old, but to add to these monsters descriptions of giant goitres based on authentic observations "in extremis Burgundiæ circa Alpes". For this we have to thank Jacques de Vitry, a much-travelled itinerant preacher who had participated in the Crusades. During his travels he must have crossed the Alps on several occasions, probably by way of the Great St. Bernard Pass. In chapter 92 of his "Historia orientalis" (1220) a particularly interesting passage is to be found. After the usual list of human monsters (giants, pygmies, skiapods, acephali, &c.) in India, i.e. in the East, he reverts to the West and writes: "In quibusdam regionibus et maxime in extremis Burgundiæ circa Alpes

quædam sunt mulieres guttur magnum usque ad ventrum protensum tanquam amphoram seu cucurbitam amplum habentes." He continues: "Quidam autem tantas in dorsis habent strumas [meaning not a goitre, but a hump on the back!] quod quidquid in augmentum corporum cedere debet, gibbus absorbet et propter hoc parvi sunt vel nani . . . Ex mutis et surdis, muti et surdi infantes procreantur". Thus, here, along with non-existent, fabulous monsters, genuine human monsters have suddenly been included because of their giant goitres and cretinous deformities.

Twenty years later (1240) in his own encyclopædia, Thomas of Cantimpré, a pupil of Jacques de Vitry, reproduced word for word the descriptions of human monsters and the report on giant goitre and cretinism "in extremis Burgundiæ circa Alpes" which figure in his master's work. The encyclopædia of Thomas of Cantimpré was translated into various languages and many of the manuscripts were probably illustrated, although very few of them are still extant.

This brings us to a series of *pictorial representations of goitre*, which, once again, made their appearance long before pictures of goitre in medical literature. The few illustrated manuscripts of Thomas's "De monstruosis hominibus" that are still preserved doubtless originated from regions free from goitre. It is therefore interesting to see how the artists who illustrated these manuscripts portrayed goitres, having probably never seen any themselves.

Illustrations from two fourteenth century manuscripts (Paris, The Hague) are reproduced here (Figs. 2 and 3).

FIG. 2.—Woman with "giant goitre". Illustration to Thomas of Cantimpré's "De monstruosis hominibus". Bibl. Nat. Paris. Ms f. français 15106. Fourteenth century. Photo B.N.

FIG. 3.—Jakob van Maerlant "Der naturen bloeme", including Thomas of Cantimpré's "De monstruosis hominibus". Royal Library Den Haag. Codex XVI. Second half of the fourteenth century.

A French version of Thomas's encyclopædia was also extraordinarily widely read, i.e. the "Imago mundi" of Gossouin (1246). I should like to mention here only his reference to "Burgundian goitres", which runs as follows: "Du côté du Mont-Gieu femmes qui ont sous le menton des grosseurs qui leur pendent jusqu'aux mamelles: c'est considéré une beauté. Bossus, tordus comme des crosses, muets, sourds, hermaphrodites, gens qui naissent sans pieds et sans mains." Here, for the first time, the geographical location of the endemic is more specific: "Mont Gieu", derived from the Latin "Mons Jovis", is known to-day as the Great St. Bernard Pass. I have examined many manuscripts of Gossouin's "Imago mundi" in various libraries. Unfortunately they show no illustrations of the monsters.

Konrad von Megenberg is thought to have been the first natural historian to write in the German language. In his "Buch der Natur" (1349/50) he, too, borrowed much from his predecessors, although he also incorporated into his work certain popular concepts, some observations of his own, as well as a great many moral exhortations. So far I have been able to discover only printed versions of his book, published one hundred years after his death. One of the most delightful features of the book is a large wood-cut illustrating the chapter on "wondrous men". It shows a number of naked figures wandering around—all of them fantastic monsters, including one

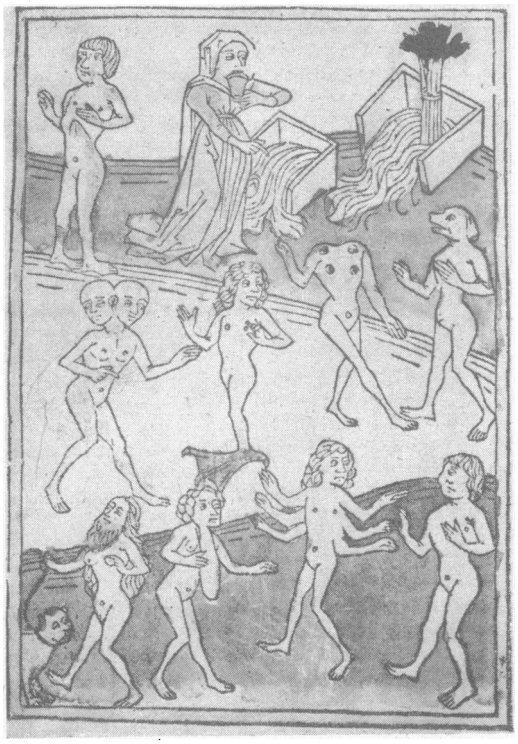

FIG. 4.—Konrad von Megenberg's "Buch der Natur" (1349). Printed edition of 1475. A woman with a big pendulous goitre among Indian monsters.

woman with a large pendulous goitre (Fig. 4). Here, in one and the same picture, we have concrete evidence to support the argument we have already discussed and corroborated, namely that a real phenomenon which the mediæval observer regarded as a monstrosity was therefore included by him in the same category as fantastic and fabulous Indian monsters.

In the middle of the fourteenth century we have yet another picture of a cretin with a goitre which is no less singular than the Reun cretin. It is the figure of an "insipiens" in the psalter of St. Lambrecht (Codex 387, University Library of Graz) ascribed to the year 1346 (Fig. 5). In the initial letter D of the 52nd psalm the "insipiens" (the fool) is depicted as an obvious cretin. His pasty face bears an infantile expression; he gives the impression of being a cautious, phlegmatic creature, and has clumsy hands and feet. In his left hand he holds a fool's staff with a pig's bladder attached to the top (this, like the cudgel, being a symbol of the "insipiens"). We cannot enter here into the history and iconography of the fool in the psalters of the thirteenth to fifteenth centuries, but in most of the initial figures to Psalm 52 he holds a round loaf in his hand and is depicted gnawing hungrily at it. In contrast to this, the St. Lambrecht cretin holds in the right hand his large twin-lobed goitre. Goitre and cretinism were widespread in Carinthia (as we have already seen with reference to Bartholomæus Anglicus, 1240) and also in the vicinity of St. Lambrecht. We can even determine with a fair degree of certainty the very name of the "insipiens" portrayed in the miniature. Listed in the necrology of St. Lambrecht in the fourteenth century is a certain Henricus Scheiterl, referred to as "fatuus valde mirabilis", in other words, as a remarkable simpleton.

Here, once again, it is not a physician but a monastic artist whom we have to thank for this valuable medico-historical document on endemic goitre and cretinism in the Middle Ages.

Another source of pictures of goitre is Boner's "Edelstein". In 1350 the Dominican monk Ulrich Boner completed in Berne his collection of fables known as "Gemme" or "Edelstein". It belongs to the category of collections of so-called "exempla", i.e. of "moralizing examples" which preachers in the thirteenth and fourteenth centuries were fond of using in their sermons. Of Boner's collection of 100 fables, the majority are taken from Aesop, a considerable number from Avianus, and the rest from various sources.

FIG. 5.—Psalter from St. Lambrecht. 1346. Cretinous "Insipiens" in the initial letter D of Psalm 52. Univ. Library of Graz. Codex 387.

FIG. 6.

FIG. 7.

FIG. 6.—Illustration to Boner's "Edelstein". Univ. Library Heidelberg. Cod. Pal. Germ. 794. About 1420.

←FIG. 7.—Illustration to Boner's "Edelstein". Univ. Library Heidelberg. Cod. Pal. Germ. 314. Dating from 1445.

FIG. 8.—Swiss illustrated chronicle of Tschachtlan, 1470. Bernese warriors killing their goitrous Vallaisan enemies by slitting their goitres.

FIG. 9.—Swiss illustrated chronicle of Diebold Schilling, 1484. The Vallaisans with their big goitres penetrating into Bernese territory. →

FIG. 8.

FIG. 9.

In his 76th fable, Boner tells the story of "The hunchback and the tollman":

In a certain small town, the count had the right to impose a "toll" on everyone wishing to cross the bridge into the town who happened to be suffering from some ailment. When a hunchback refused to pay the tax to the tollman for the hump on his back, a quarrel broke out; the two came to blows, during which the tollman discovered that the would-be tax-evader had four further ailments (goitre, blindness in one eye, favus, and scabies). Finally the hunchback had to pay 5 pence instead of the penny originally demanded. (The moral of the tale: it is better to pay small debts at once, lest they accumulate into bigger ones.)

Boner borrowed this story from Etienne de Besançon, but had the bright idea of giving the hunchback a goitre instead of the hernia from which Etienne's hunchback suffered. Whether he did this for "æsthetic" reasons is a matter for conjecture. At all events, in fourteenth century Berne Boner must have seen many cases of goitre and evidently regarded the disease as a common ailment.

Unfortunately, the oldest Boner manuscripts have been lost. Very few are illustrated. Only four of them—all from the first half of the fifteenth century—contain an illustration of fable 76. Three show the hunchback's goitre, thus serving as further pictorial documentary evidence of endemic goitre at that time (Figs. 6 and 7).

The three hunchbacks with goitres figuring in manuscripts from the first half of the fifteenth century (Basle, Heidelberg) provide documentary proof of the existence of endemic goitre at a time when the very first, and far more primitive, sketches of goitre had only just begun to appear in medical literature.

The iconography of the Swiss chronicles of the last quarter of the fifteenth century is, of course, far inferior to the splendid illustrative art found in contemporary English, French, Flemish, and Italian sources. Its quality is determined by the amateurish technique of the artists, one of whom (Tschachtlan) was a historiographer and the other (Diebold Schilling) a judicial clerk. Nevertheless, these chronicles are of interest, since they contain many illustrations of goitres. These artists evidently took a delight in depicting minute details of the events described in them (consisting largely of raids carried out by Bernese and Vallaisan warriors in the fourteenth and fifteenth centuries), and their chief motive for introducing goitres was to poke fun at the victims of the disease—a fact which explains why the Bernese artists portray the Vallaisans, and only the Vallaisans, with goitres! Here, for the first time in manuscripts, we have goitres depicted for the purpose of making the individual appear despicable and ugly, a phenomenon by no means rare in paintings and sculptures of this period.

In Figs. 8 and 9 can be seen a number of these goitrous Vallaisans. In the foreground of one of the drawings a Bernese warrior is slitting the throats or, more precisely, the goitres of his enemies. This, incidentally, serves as a reminder that in the Middle Ages the goitre was apparently regarded as a particularly vulnerable spot and was accordingly singled out for special attention during a fight.

"Goitre Illustrations" in Medical Manuscripts of the Fifteenth Century

Now that we have seen several quite impressive pictures of goitres and cretins from non-medical manuscripts of the thirteenth to fifteenth centuries, let us take a brief look at medical manuscripts. We have to start as late as the fifteenth century, since no goitre illustrations of earlier date have been found in medical manuscripts. Knowledge of anatomy in the Middle Ages was very limited, and anatomical illustrations were remarkably late in appearing. Perhaps one reason is that mediæval physicians derived their knowledge of Greek medicine via the Arabs, who were forbidden to make illustrations of human figures. As a result, in the course of the centuries the medical profession possibly made a virtue of necessity and was content to manage without the aid of pictures. With regard to anatomical illustrations, the well-known medical historian Diepgen writes

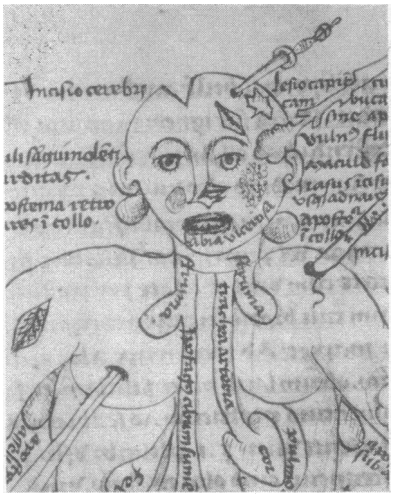

FIG. 10.—"Wound-man" (detail) with two "struma", one proceeding from the œsophagus, the other adjacent to the trachea. Paris, Bibl. Nat. Ms f. lat. 11229. Beginning of the fifteenth century.

Photo B.N.

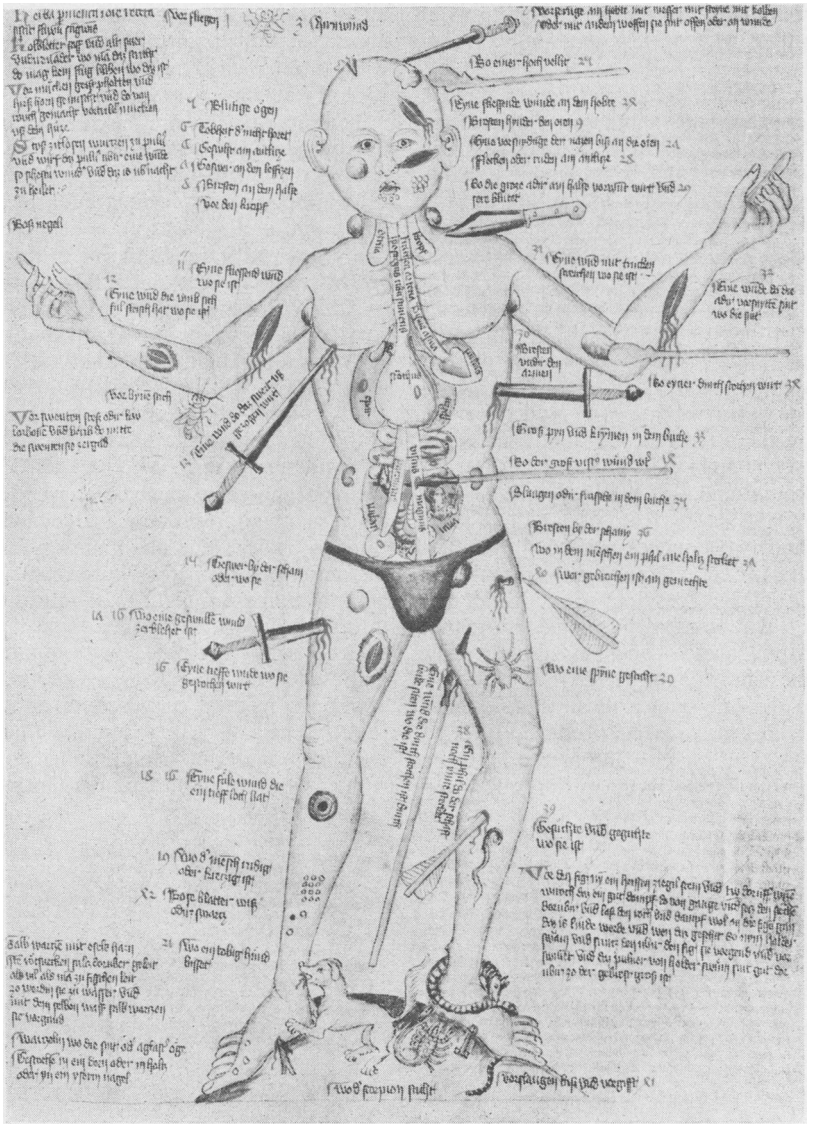

FIG. 11.—"Wound-man" with a "struma" and a "kropf" close to the œsophagus and to the trachea. Wellcome Apocalypse manuscript, dating from about 1460.

as follows: "It is one of the most peculiar phenomena in the history of medicine that in anatomy . . . two whole centuries were to elapse before a correct conception of the structure of the human body was evolved . . . Often the artists merely drew a brief *outline*, a sort of symbol, leaving it to the reader to figure out what it was meant to convey" (cit. from Fleck).

The only pictures of goitres that I have so far succeeded in finding in medical manuscripts of the fifteenth century are all drawn in this curious schematic fashion. One has indeed the impression that the physician of those days was satisfied with primitive diagrammatic outlines.

All these pictures originate from so-called "precursors" of Ketham's "Fasciculus Medicinæ" the first edition of which appeared in Venice in 1491. This work contains a woodcut of a "wound-man", a figure adopted from earlier drawings in manuscripts and presenting a pictorial review of the various injuries which the human body is liable to sustain. From head to foot the naked

figure is covered with every conceivable form of injury, together with a few externally visible diseases.

The oldest of these "precursor" figures appears in a manuscript in the Bibliothèque Nationale in Paris (Ms lat. 11229). It is a diagrammatic drawing, dating from the beginning of the fifteenth century. Particularly interesting are the two tube- or sac-like excrescences on the neck, both of which are marked "struma". The one on the right leads from the œsophagus, from which it bulges outwards. The one on the left lies adjacent to the trachea (Fig. 10). The artist seems to have made a mistake here: according to Greek authors, goitre was supposed to be a protrusion from the windpipe ("bronchocele"), whereas here the artist has shown it proceeding from the œsophagus!

In the "wound-man" of the Wellcome Apocalypse manuscript, dating from about 1460, there are once again two pouches next to the trachea and œsophagus which are marked "struma" and "kropf" (Fig. 11).

The two "wound-men" depicted in manuscripts in Munich and Copenhagen both show goitres on the right side of the neck.

These are the only goitre illustrations I have found in medical manuscripts produced prior to the year 1500. This paucity of material is all the more remarkable since—during the last quarter of the fifteenth century in particular, at least in areas where goitre was endemic—many goitres appear in both painting and sculpture, bearing witness to the vivid, realistic, and often grotesque style of Late Gothic art.

To sum up: the non-medical manuscripts of the thirteenth to fifteenth centuries that have been discussed and the illustrations contained in them serve as documentary evidence for the existence of goitre and cretinism as an endemic disease at a time when medical manuscripts still shed no light on this subject. They also indicate the localities to which these endemics were confined. The encyclopædias of the thirteenth century (Jacques de Vitry and Thomas of Cantimpré) were very widely read. Hence, knowledge of the existence of the goitre and cretinism endemic in the region of the Great St. Bernard Pass must also have been very widespread in the Middle Ages. That medical authors ignored it must be ascribed to the fact that "giant goitres" were included in the same category as the fabulous monsters of India and therefore seemed incredible to them. Compared with the numerous pictures of goitres to be found in non-medical manuscripts of the thirteenth to fifteenth centuries, the few primitive, diagrammatic sketches of goitres which first began to appear in medical manuscripts of the fifteenth century cut a very poor figure. Illustrations in medical manuscripts simply failed to keep pace with the flourishing art of the Gothic and Late Gothic period.

Meeting
September 29, 1960

Meeting in Connexion with the First British Congress on the History of Medicine and Pharmacy

The following papers were read:

The Influence of Health Insurance Schemes—Dr. Ffrangcon Roberts.
The Influence of Medical Societies—Dr. W. H. McMenemey.
The Influence of Clinical Research—Dr. K. D. Keele.

The papers will be published in "Evolution of Medical Practice in England", under the editorship of Dr. F. N. L. Poynter, during 1961.